



## 第 40 回 昆虫学格致セミナー

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ところ : 京都大学農学部 1 階 E-103 号室

### **The gut microbiota of termites and cockroaches: Ecology and evolution of symbiotic digestion**

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Termites arose during the Middle Jurassic (> 150 Mya), presumably from omnivorous cockroaches that acquired the ability to digest lignocellulose with the help of their intestinal microbiota. The enlarged hindgut paunch of all evolutionary lower termites is colonized by a dense assemblage of cellulolytic flagellates and large populations of prokaryotic symbionts. In higher termites, the loss of the protists and an increasing compartmentation of the hindgut, accompanied by a strong dietary diversification, provided new niches for the bacterial and archaeal gut microbiota. Deep sequencing of the gut microbiota revealed dramatic changes that coincide with major events in termite evolution and shed new light on the environmental drivers that shape the structure of the intestinal microbial communities, the evolutionary origin of different lineages, and their role in the digestive process.